

What is claimed is:

1 1. A method of redirecting a request from a client that may be served by a first server to  
2 a second server, the method comprising the computer-implemented steps of:  
3 receiving a client request at the second server;  
4 automatically forwarding the client request to the first server;  
5 receiving a result message from the first server;  
6 identifying, in the result message, references to resources of the first server;  
7 replacing the references to resources of the first server with translated references that  
8 reference the second server; and  
9 sending the translated references to the client as a response to the client request.

1     3.     The method recited in Claim 1, wherein the identifying step comprises the steps of:  
2     parsing the result message to identify one or more tags that are associated with  
3     references to resources of the first server; and  
4     matching the tags to attributes that identify resources of the first server.

1     5.     The method recited in Claim 1, wherein the replacing step comprises attaching, to  
2     each of the references to resources of the first server, a value that identifies a process  
3     of the second server that carries out the identifying step and the replacing step.

- 1     6.     The method recited in Claim 1,  
2           wherein the step of receiving a client request at the second server comprises the steps  
3                 of receiving a client HTTP request at a second Web server;  
4           wherein the step of automatically forwarding the client request to the first server  
5                 comprises the steps of redirecting the client HTTP request to a first Web  
6                 server;  
7           wherein the step of receiving a result message from the first server comprises the steps  
8                 of receiving an HTTP response message from the first Web server that  
9                 contains an HTML document.
- 1     7.     The method recited in Claim 6, wherein the step of identifying, in the result message,  
2           references to resources of the first server comprises the steps of parsing the HTML  
3           document to identify one or more URLs.
- 1     8.     The method recited in Claim 6, wherein the step of identifying, in the result message,  
2           references to resources of the first server comprises the steps of parsing the HTML  
3           document to identify one or more relative URLs that lack an explicit reference to the  
4           first server or one or more URLs that explicitly reference the first server.
- 1     9.     The method recited in Claim 6, wherein the steps of identifying and replacing are  
2           carried out using a CGI script that may contain one or more associated software  
3           elements, and wherein the step of replacing comprises the steps of attaching, to each  
4           of the references to resources of the first server, a value that identifies the CGI script.
- 1     10.    The method recited in Claim 1, wherein the steps of identifying, replacing and sending  
2           comprise the steps of:  
3           stream tokenizing the result message into a plurality of tags, each of the tags having  
4                 zero or more attributes;

5 storing in an output message any tags that are not associated with references to  
6 resources of the first server;  
7 for each tag that is associated with a reference to a resource of the first server:  
8 identifying a resource attribute associated with the tag that identifies the  
9 resource;  
10 prepending a value, which identifies a software element that carries out the  
11 steps of identifying and replacing, to the resource attribute; and  
12 storing the tag, value, and resource attribute in the output message.

1 11. The method recited in Claim 1, wherein the first server and the second server form  
2 part of a load-balanced server group, and wherein both the first server and the second  
3 server are capable of responding to the client request.

1 12. A data communications apparatus, comprising:  
2 a first server that hosts a resource that may respond to the request and coupled over a  
3 network to a client;  
4 a second server coupled to the first server;  
5 means in the second server for receiving a request from the client at the second server,  
6 automatically forwarding the request to the first server, and receiving a result  
7 message from the first server;  
8 means for identifying, in the result message, references to resources of the first server,  
9 and replacing the references to resources of the first server with translated  
10 references that reference the second server; and  
11 means for sending the translated references to the client as a response to the request.

1 13. The apparatus recited in Claim 12, wherein the second server further comprises means  
2 for receiving, at the second server, a second client request based on the response, and,  
3 for the second client request, for repeating the steps of automatically forwarding,  
4 receiving a result message, identifying, replacing, and sending.

1 14. The apparatus recited in Claim 12, wherein the second server further comprises means  
2 for parsing the result message to identify one or more tags that are associated with  
3 references to resources of the first server, and for matching the tags to attributes that  
4 identify resources of the first server.

1 15. The apparatus recited in Claim 14, wherein the second server further comprises means  
2 for attaching, to each of the references to resources of the first server, a value that  
3 identifies a process of the second server that carries out the identifying step and the  
4 replacing step.

1 16. The apparatus recited in Claim 12, wherein the second server further comprises means  
2 for attaching, to each of the references to resources of the first server, a value that  
3 identifies a process of the second server that carries out the identifying step and the  
4 replacing step.

1 17. The apparatus recited in Claim 12, wherein the second server further comprises means  
2 for receiving a client HTTP request at a second Web server, redirecting the client  
3 HTTP request to a first Web server, and receiving an HTTP response message from  
4 the first Web server that contains an HTML document.

1 18. The apparatus recited in Claim 17, wherein the second server further comprises means  
2 for parsing the HTML document to identify one or more URLs.

1 19. The apparatus recited in Claim 17, wherein the second server further comprises means  
2 for parsing the HTML document to identify one or more relative URLs that lack an  
3 explicit reference to the first server or one or more URLs that explicitly reference the  
4 first server.

1     20.     The apparatus recited in Claim 17, wherein the second server further comprises a CGI  
2             script that may contain one or more associated software elements, and wherein the  
3             second server further comprises means for attaching, to each of the references to  
4             resources of the first server, a value that identifies the CGI script.

1     21.     The apparatus recited in Claim 12, wherein the second server further comprises means  
2             for stream tokenizing the result message into a plurality of tags, each of the tags  
3             having zero or more attributes, for storing in an output message any tags that are not  
4             associated with references to resources of the first server, and, for each tag that is  
5             associated with a reference to a resource of the first server, for identifying a resource  
6             attribute associated with the tag that identifies the resource, prepending a value, which  
7             identifies a software element that carries out the steps of identifying and replacing, to  
8             the resource attribute, and storing the tag, value, and resource attribute in the output  
9             message.

1     22.     The apparatus recited in Claim 12, wherein the first server and the second server form  
2             part of a load-balanced server group, and wherein both the first server and the second  
3             server are capable of responding to the client request.

1     23.     An apparatus for redirecting a request from a client that may be served by a first server  
2             to a second server, the apparatus comprising:  
3             a first server that hosts a resource that may respond to the request and coupled over a  
4                 network to a client;  
5             a second server coupled to the first server;  
6             a computer-readable medium in the second server comprising one or more sequences  
7                 of instructions which, when executed by the second server, cause the second  
8                 server to perform the steps of:  
9                 receiving a client request;  
10             automatically forwarding the client request to the first server;

11 receiving a result message from the first server;  
12 identifying, in the result message, references to resources of the first server;  
13 replacing the references to resources of the first server with translated  
14 references that reference the second server; and  
15 sending the translated references to the client as a response to the client  
16 request.

1 24. The apparatus recited in Claim 23, further comprising instructions for performing the  
2 steps of:  
3 receiving, at the second server, a second client request based on the response; and  
4 for the second client request, repeating the steps of automatically forwarding,  
5 receiving a result message, identifying, replacing, and sending.

1 25. The apparatus recited in Claim 23, wherein the instructions for performing the  
2 identifying step comprise instructions for performing the steps of:  
3 parsing the result message to identify one or more tags that are associated with  
4 references to resources of the first server; and  
5 matching the tags to attributes that identify resources of the first server.

1 26. The apparatus recited in Claim 25, wherein the instructions for performing the  
2 replacing step comprise instructions for performing the step of attaching, to each of  
3 the references to resources of the first server, a value that identifies a process of the  
4 second server that carries out the identifying step and the replacing step.

1 27. The apparatus recited in Claim 23, wherein the instructions for performing the  
2 replacing step comprise instructions for performing the step of attaching, to each of  
3 the references to resources of the first server, a value that identifies a process of the  
4 second server that carries out the identifying step and the replacing step.

1     28.     The apparatus recited in Claim 23,  
2             wherein the instructions for performing the step of receiving a client request at the  
3                 second server comprise instructions for performing the steps of receiving a  
4                 client HTTP request at a second Web server;  
5             wherein the instructions for performing the step of automatically forwarding the client  
6                 request to the first server comprise instructions for performing the steps of  
7                 redirecting the client HTTP request to a first Web server;  
8             wherein the instructions for performing the step of receiving a result message from the  
9                 first server comprise instructions for performing the steps of receiving an  
10                 HTTP response message from the first Web server that contains an HTML  
11                 document.

1     29.     The apparatus recited in Claim 28, wherein the instructions for performing the step of  
2             identifying, in the result message, references to resources of the first server comprises  
3             instructions for performing the steps of parsing the HTML document to identify one  
4             or more URLs.

1     30.     The apparatus recited in Claim 28, wherein the instructions for performing the step of  
2             identifying, in the result message, references to resources of the first server comprise  
3             instructions for performing the steps of parsing the HTML document to identify one  
4             or more relative URLs that lack an explicit reference to the first server or one or more  
5             URLs that explicitly reference the first server.

1     31.     The apparatus recited in Claim 28, wherein the instructions for performing the steps of  
2             identifying and replacing are carried out using a CGI script that may contain one or  
3             more associated software elements, and wherein the instructions for performing the  
4             step of replacing comprise instructions for performing the steps of attaching, to each  
5             of the references to resources of the first server, a value that identifies the CGI script.

1 32. The apparatus recited in Claim 23, wherein the instructions for performing the steps of  
2 identifying, replacing and sending comprise instructions for performing the steps of:  
3 stream tokenizing the result message into a plurality of tags, each of the tags having  
4 zero or more attributes;  
5 storing in an output message any tags that are not associated with references to  
6 resources of the first server;  
7 for each tag that is associated with a reference to a resource of the first server:  
8 identifying a resource attribute associated with the tag that identifies the  
9 resource;  
10 prepending a value, which identifies a software element that carries out the  
11 steps of identifying and replacing, to the resource attribute; and  
12 storing the tag, value, and resource attribute in the output message.

1 33. The apparatus recited in Claim 22, wherein the first server and the second server form  
2 part of a load-balanced server group, and wherein both the first server and the second  
3 server are capable of responding to the client request.

1 34. A computer-readable medium carrying one or more sequences of instructions for  
2 redirecting a client request of a client that may be serviced by a first server, to a  
3 second server, wherein execution of the one or more sequences of instructions by one  
4 or more processors causes the one or more processors to perform the steps recited in  
5 any of Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, or 11.